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Purificn. of arsenic contaminated anhydrous hydrogen fluoride - is
contacted with hydrogen peroxide in presence of catalyst

Patent Assignee: ALLIED-SIGNAL INC (ALLC)

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Number of Countries: 017 Number of Patents: 013

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 351107	A	19900117	EP 89306641	A	19890629	199003 B
WO 9000521	A	19900125	WO 89US2902	A	19890629	199007
US 4929435	A	19900529	US 88217497	A	19880711	199025
AU 8938725	A	19900205				199032
EP 428547	A	19910529	EP 89908290	A	19890629	199122
JP 3501965	W	19910509	JP 89508034	A	19890629	199125
EP 351107	B1	19930609	EP 89306641	A	19890629	199323
AU 636298	B	19930429	AU 8938725	A	19890629	199324
DE 68906973	E	19930715	DE 606973	A	19890629	199329
			EP 89306641	A	19890629	
CA 1314382	C	19930316	CA 605017	A	19890707	199331
JP 94057602	B2	19940803	JP 89508034	A	19890629	199429
			WO 89US2902	A	19890629	
ES 2055065	T3	19940816	EP 89306641	A	19890629	199434
KR 9700892	B1	19970121	WO 89US2902	A	19890629	199933
			KR 90700477	A	19900306	

Priority Applications (No Type Date): US 88217497 A 19880711; US 8714422 A 19870212

Cited Patents: EP 27607; GB 1016496; US 4032621

Patent Details:

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EP 351107 A E 21

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Designated States (National): AU JP KR

Designated States (Regional): AT BE CH DE FR GB IT LU NL SE

US 4929435 A 14

EP 428547 A

Designated States (Regional): BE DE FR

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Designated States (Regional): BE DE ES FR GR

AU 636298	B	C01B-007/19	Previous Publ. patent AU 8938725 Based on patent WO 9000521
DE 68906973	E	C01B-007/19	Based on patent EP 351107
JP 94057602	B2	13 C01B-007/19	Based on patent JP 3501965 Based on patent WO 9000521
ES 2055065	T3	C01B-007/19	Based on patent EP 351107
CA 1314382	C	C01B-007/19	
KR 9700892	B1	C01B-007/19	

Abstract (Basic): EP 351107 A

HF is contacted with H₂O₂ in the presence of Mo, V or their cpds. or a phosphate as catalyst to oxidise volatile trivalent As impurities to non volatile pentavalent As cpds. Resulting reaction mixt. is then distilled to recover purified HF from the column top. Reaction temp. is pref. 15-75 deg.C. Catalyst is e.g. NaVO₃, NH₄VO₃ or VO(AC)₂, etc., or Na₄P₂O₇.10H₂O.

USE/ADVANTAGE - Impure HF may be industrial grade or is an intermediate prod. obtd. during HF mfr. Prod. is used in electronics industry as a cleaning agent or etchant during mfr. of semiconductors, diodes, etc. Prod. is safe from explosion hazards and has 99.9% concn. Process does not introduce foreign material into prod.

Abstract (Equivalent): EP 351107 B

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Abstract (Equivalent): US 4929435 A

Anhydrous hydrogen fluoride with reduced levels of arsenic contamination are produced by contacting the feed material with hydrogen peroxide in the presence of a catalyst. The mix is then distilled to give the desired purified product. The catalyst contains a component selected from an organic molybdenum compound, vanadium and/or a vanadium compound combined with a phosphate cpd.

ADVANTAGE - The treatment converts volatile trivalent arsenic impurities into non-volatile pentavalent arsenic cpds. which can be sepd. by distn.

Derwent Class: E36

International Patent Class (Main): C01B-007/19

International Patent Class (Additional): B01D-003/34; B01J-027/16

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